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Jan 2, 2003

DOCUMENT-IDENTIFIER: US 20030003532 A1

TITLE: Novel nucleic acid sequences encoding human slit-, megf-, and roundabout-like polypeptides

Detail Description Paragraph (13):

[0056] The semaphorin (a.k.a. collapsin) family of molecules plays a critical role in the guidance of nerve growth cones during neuronal development. The family is characterized by the presence of a conserved semaphorin domain at the amino terminus. Mutational analysis of human semaphorin A(V) revealed mutations (germline in 1 case) in 3 of 40 lung cancers. Semaphorin E is responsible for a non-MDR drug resistance in human cancers including ovarian cancer and is overexpressed in CDDP-resistant cell lines as well as induced by diverse chemotherapeutic drugs and by X-ray and UV irradiation. Yamada et al. 1997 Proc. Nat. Acad. Sci 94: 14713-14718. Human semaphorin E mRNA is up-regulated in synovial fibroblasts of rheumatoid arthritis patients. Mangasser-Stephan et al. 1997 Biochem. Biophys. Res. Commun. 234: 153-156. Human neuropilin-1, a receptor for the collapsin/semaphorin family that mediates neuronal cell guidance, is expressed by endothelial and tumor cells as an isoform-specific receptor for vascular endothelial growth factor and is believed to regulate VEGF-induced angiogenesis. Soker et al. 1998 Cell 92: 735-745.